REMARKS

Claims 1 - 10 are pending in the above-identified application. Claims 6 - 10 are withdrawn from consideration.

In the Office Action of February 15, 2002, Claims 1 - 5 were rejected. No claim was allowed. In response, Claim 1 is amended and Claim 2 is canceled. Reexamination and reconsideration are respectfully requested in view of the foregoing amendments and the following remarks.

Rejection of Claim 5 under 35 U.S.C. §112, first paragraph

Claim 5 was rejected under 35 U.S.C. §112, first paragraph, as containing subject matter that is not enabled by the specification. In particular, the Office Action states that if a deposit of the strains of microorganisms has been made, applicants are required to meet the necessary criteria of the deposit rules in accordance with 37 CFR 1.801 - 37 CFR 1.809.

In response, Applicants provide the following Statement:

STATEMENT OF COMPLIANCE WITH 37 CFR 1.801 - 1.809

Applicants respectfully submit that the Escherichia coli strain H-9341 (FERM BP-6674) described in the above-identified application, has been accepted for deposit under the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purpose of Patent Procedure and that all restrictions on the availability to the public of the deposited strains will be irrevocably removed upon the issuance of a patent.

Further, Applicants note that the deposit under the Budapest Treaty is referred to and identified on page 9 of the specification.

Accordingly, it is respectfully submitted that the rejection of Claim 5 under 35 U.S.C. §112, first paragraph, is thereby overcome.

Rejection of Claims 1 - 5 under 35 U.S.C. §112, second paragraph

Claims 1 - 5 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner alleges that in Claim 1, it is unclear what is encompassed by "having resistance to an aminoquinoline derivative in a medium." The reasons alleged for finding this phrase to be indefinite are that the concentration of the compound is not specified, that the scope of compounds encompassed by "aminoquinoline derivative" is not clear, and that it is unclear what is intended by the phrase "resistance...in a medium". The Examiner further alleges that there is no antecedent basis for "the culture" in (b) of Claim 1 and that "substances" in Claim 2 should be "compounds."

In response, Claim 1 is amended to provide specific aminoquinoline compounds, as originally set forth in Claim 2. Claim 1 is further amended to provide a concentration of 150 mg/l. This limitation is supported on page 6, lines 1 - 8 and page 9, lines 8 - 9 of the present specification. Moreover, steps (a), (b) and (c) of Claim 1 are amended to consistently refer to a "culture medium".

Accordingly, it is respectfully submitted that all of the rejections of Claims 1 - 5 under 35 U.S.C. §112, second paragraph, are thereby overcome.

Rejection of Claims 1 - 4 under 35 U.S.C. §103(a) over Kino taken with Stanbury

Claims 1 - 4 were rejected under 35 U.S.C. §103(a) as obvious over Kino et al (U.S. Patent No. 5,275,940) taken with Stanbury et al, "Principles of Fermentation Technology:, 1984, Pergamon Press, pp 43 - 47. The Examiner alleges that Kino

teaches the production of an amino acid with a strain of Corynebacterium glutamicum that is resistant to an aminoquinoline derivative. The Examiner alleges that a person skilled in the art would have expected any strain to produce and accumulate a variety of amino acids at least to some extent. The Examiner further alleges that Stanbury teaches that it is old to screen and select microorganisms for increased amino acid production by isolating mutants having amino acid analogue resistance. The Examiner concludes that it would have been obvious to modify the process of Kino by culturing the same or other microorganisms for the production of amino acids.

This rejection is respectfully traversed. Kino does not disclose or suggest the overproduction of amino acids other than tryptophan by microorganisms having resistance to aminoquinoline derivatives. Moreover, amino acids are produced through various biosynthetic pathways under diverse metabolic regulation, so that, therefore, a person skilled in the art would not be able to predict from the disclosure of Kino whether overproduction of amino acids other than tryptophan would be possible or not.

Further, the disclosure in Stanbury relating to screening and selecting microorganisms for increased amino acid production by isolating mutants having amino acid analogue resistance is not relevant to the present invention because the aminoquinolines of the present invention are not amino acid analogues. (Stanbury, on page 43, line 1 - 2 defines an analogue as being a structure that is very similar in structure to the compound for which it is an analogue.) Rather, the structure of chloroquine, amodiaquine, pentaquine and primaquine are very different from the structure of amino acids. A separate sheet showing the structure of chloroquine, amodiaquine, pentaquine and primaquine and the general formula for amino acids is attached hereto as Exhibit A. Since these compounds are not analogous to amino acids, the Stanbury disclosure provides no basis for a person skilled in the art to predict

whether a microorganism having resistance to these compounds can overproduce amino acids or not.

Accordingly, it is respectfully submitted that Claims 1 - 4 would not have been obvious over Kino and Stanbury, alone or in combination.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 1 and 3 - 5 are in condition for allowance. Favorable reconsideration is respectfully requested.

Should the Examiner believe that anything further is necessary to place this application in condition for allowance, the Examiner is requested to contact applicants' undersigned attorney at the telephone number listed below.

Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 01-2135 (506.39084X00).

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

By_____

Ralph T. Webb
Reg. No. 33,047

RTW/dlt

Attachment: Exhibit – A
Marked-up copy to show changes made

MARKED UP COPY TO SHOW CHANGES MADE

IN THE CLAIMS

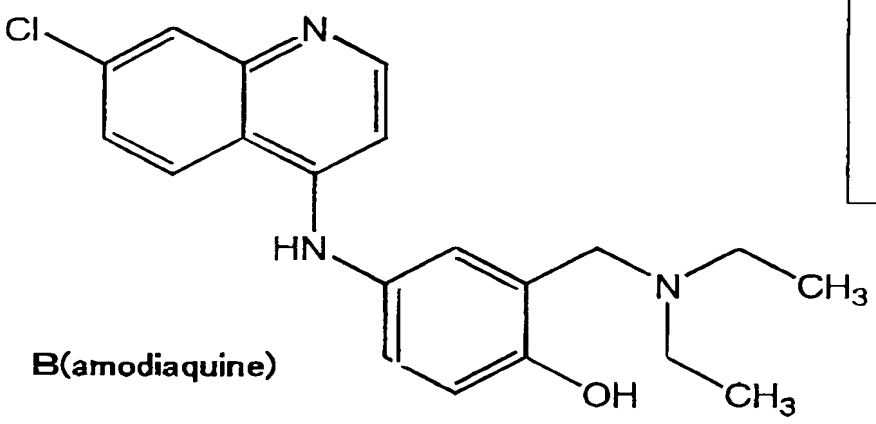
1. (Amended) A method for producing an amino acid, which comprises:

(a) culturing a microorganism having an ability to produce an amino acid selected from the group consisting of L-alanine, L-valine, L-leucine, L-isoleucine, L-methionine, L-phenylalanine, L-proline, glycine, L-serine, L-threonine, L-cysteine, L-tyrosine, L-asparagine, L-glutamine, L-lysine, L-histidine, L-arginine, L-aspartic acid and L-glutamic acid and having resistance to an aminoquinoline derivative selected from the group consisting of chloroquine, amodiaquine, pentaquine, primaquine and the alkali metal salts of these compounds at 150 mg/l in a culture medium;

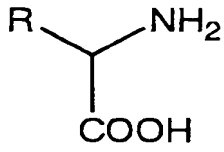
(b) producing and accumulating the amino acid in the culture medium; and

(c) recovering the amino acid from the culture medium.

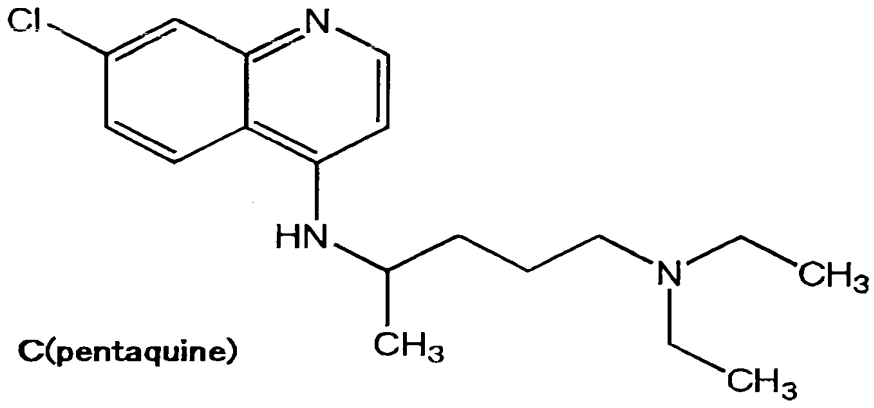
A(chloroquine)



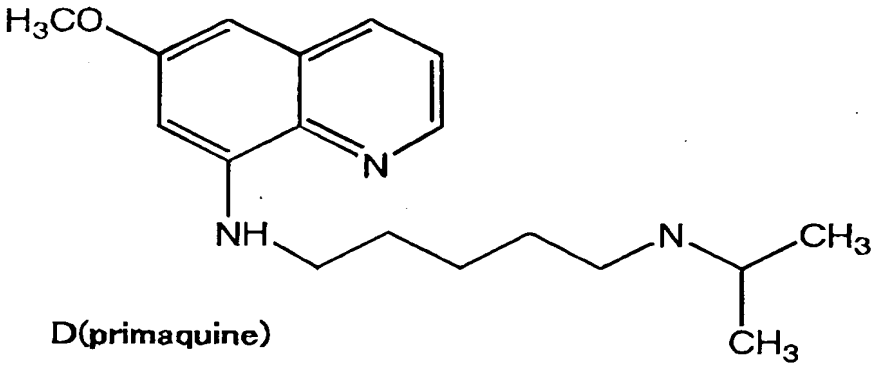
Amino Acids



B(amodiaquine)



C(pentaquine)



D(primaquine)